Claims

1. A composition for the delivery of gaseous nitric oxide (NO), comprising a compound capable of forming a reversible bond or association with *NO*.

2. The composition according to claim 1, wherein said compound is a water miscible organic compound, presenting at least one hydroxyl group.

3. The composition according to claim 1, wherein said compound is a carbohydrate compound.

4. The composition according to claim 3, wherein said compound is a monosaccharide or a derivate thereof.

5. The composition according to claim 4, wherein said compound is chosen among glucose, fructose, galactose, ribose.

6. The composition according to claim 4, wherein said compound is a monosaccharide alcohol.

7. The composition according to claim 6, wherein said compound is chosen among sorbitol and mannitol.

8. The composition according to claim 4, wherein said compound is a modified monosaccharide.

9. The composition according to claim 8, wherein said compound is chosen among fucose, 2-deoxy-ribose, 1-O-methyl-ribose.

10. The composition according to claim 3, wherein said compound is a disaccharide or a higher carbohydrate polymer of a monosaccharide or derivate thereof.

11. The composition according to claim 10, wherein said compound is a disaccharide or higher polysaccharide of glucose, fructose, galactose, ribose, sorbitol, mannitol, fucose, 2-deoxy-ribose, and 1-O-methyl-ribose.

12. The composition according to claim 10, wherein said compound is chosen among sucrose, lactobionic acid, inulin, dextran, and fucoidan.

13. The composition according to claim 3, wherein said compound is an alcohol or a derivate thereof.

14. The composition according to claim 13, wherein said compound is a monohydric alcohol or a derivative thereof.

15. The composition according to claim 14, wherein said compound is chosen among 1-propanol, 2-propanol, sorbitol, and mannitol.

16. The composition according to claim 13, wherein said compound is a dihydric alcohol.

17. The composition according to claim 16, wherein said compound is chosen among 1,2-propanediol and 1,3-propanediol.

18. The composition according to claim 13, wherein said compound is a trihydric alcohol.

19. The composition according to claim 18, wherein said compound is glycerol.

20. The composition according to claim 3, wherein said compound is a polymer of alcohol molecules or derivates thereof.

21. The composition according to claim 20, wherein said compound is polyethylene glycol.

22. The composition according to claim 1, wherein said compound is a modified amino acid, peptide, polypeptide or protein.

23. The composition according to claim 22, wherein said compound is a modified amino acid where the primary amino group has been substituted to a secondary amino group.

24. The composition according to claim 23, wherein said compound is N-acetyl-cysteine.

25. The composition according to claim 22, wherein said compound is albumin.

26. The composition according to claim 1, formulated as a lipid emulsion.

27. The composition according to any one of claims 1 ~ 26, formulated for topical, rectal, vaginal, urethral, intravesical, nasal, ocular, sublingual, buccal, oral, enteral, intravenous, intraarterial, intratracheal, intramuscular or subcutaneous administration.

28. The composition according to claim 27, wherein the composition contains substantially no oxygen.

29. The use of a compound capable of forming a reversible bond or association with NO, for the treatment, alleviation or prevention of a condition where the administration of NO is beneficial.

30. The use of a compound capable of forming a reversible bond or association with NO, for the manufacture of a pharmaceutical formulation for the delivery of NO in the treatment of a condition where the administration of NO is beneficial.

31. The use according to claim 30, wherein said compound is chosen among glucose, fructose, galactose, ribose, sorbitol, mannitol, fucose, 2-deoxy-ribose, 1-O-methyl-ribose, sucrose, lactobionic acid, inulin, dextran, fucoidan, 1-propanol, 2-propanol, 1,2-propanediol, 1,3-propanediol, glycerol, polyethylene glycol, N-acetyl-cysteine, albumin, a lipid, and derivatives thereof.

32. The use according to claim 30, wherein said condition is chosen among acute pulmonary vasoconstriction of different genesis, pulmonary embolism, pulmonary hypertension of different genesis, including primary hypertension and secondary hypertension, systemic hypertension of different genesis, portal hypertension of various genesis, acute heart failure, acidosis, inflammation of the lung, adult respiratory distress syndrome, acute pulmonary edema, acute mountain sickness, asthma, hypoxia of different genesis, inflammation of different genesis, wound healing, and conditions where smooth muscle relaxation is needed.

33. The use according to claim 30, wherein a controlled vascular hypotension is achieved in the systemic, portal, or pulmonary circulation.

34. The use according to claim 30, wherein the pharmaceutical formulation is one of a plaster or bandage, a gel, a cream, an ointment, a solution, a

suppository for topical, rectal or vaginal administration; a solution, for drop wise addition or for forming an aerosol for nasal or ocular administration; a solution, emulsion, drops, capsules or tablets for oral or enteral administration; an injectable solution or emulsion for intravenous, intraarterial, intratracheal, intramuscular or subcutaneous administration.

35. A method for the manufacture of a NO delivering composition, wherein an aqueous solution comprising a water miscible compound capable of forming a reversible bond or association with NO, is de-oxygenized until substantially free from oxygen, and then purged with pure NO gas until a desired NO concentration is reached.

36. The method according to claim 35, wherein said compound capable of forming a spontaneously reversible association with NO is a water miscible organic compound, presenting at least one hydroxyl group.

37. The method according to claim 35, wherein said compound is a compound as defined in anyone of claims 3 - 26.

38. A NO-saturated, substantially oxygen-free and physiologically acceptable composition, obtainable by a method according to any one of claims 35 - 37.

39. A method for the treatment, alleviation or prevention of a condition chosen among acute pulmonary vasoconstriction of different genesis, pulmonary embolism, pulmonary hypertension of different genesis, including primary hypertension and secondary hypertension, systemic hypertension of different genesis, portal hypertension of different genesis, acute heart failure, acidosis, inflammation of the lung, adult respiratory distress syndrome, acute pulmonary edema, acute mountain sickness, asthma, hypoxia of different genesis, inflammation of different genesis, wound healing, and conditions where smooth muscle relaxation is needed, wherein a compound, capable of delivering NO is given to said patient.

40. The method according claim 39, wherein said compound is a compound as defined in anyone of claims 3 - 26.